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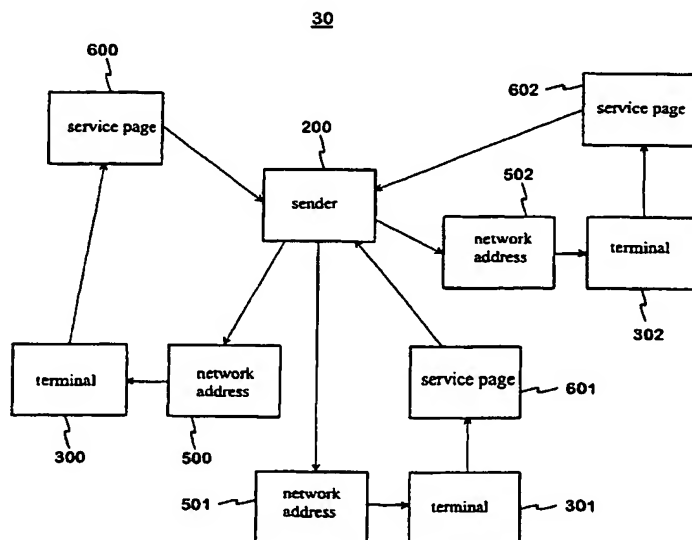
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(75) Inventor/Applicant (*for US only*): **VISURI, Petri, Jaakko, Johannes [FI/FI]**; Siltatie 1 B, FIN-00140 Helsinki (FI).

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[Continued on next page]

(54) Title: **INTERACTIVE SERVICE**



(57) Abstract: The invention relates to an interactive service associated with distributed type programmes, where the users of the service may influence the transmissions sent to them, e.g. by making selections concerning the transmission. The term transmission refers to the sending of a programme via radio transmitters of the distribution network or via a data network in an encoded form. User selections are transferred e.g. in the form of SMS messages from the terminal (300, 301, 302) to a server which distributes the selection data to one or more senders (200) such as radio channels, for example. The radio channels may send response information to the user, change their transmissions according to the user selections or change the contents of a personal data packet, say an audio file, on the basis of the user selections.

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For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

Interactive service

5 The invention relates to an interactive service associated with distributed type transmissions, where the users of the service may influence the programme sent to them. The invention primarily relates to audio programmes.

From the prior art a method is known in which the listener/viewer of a programme phones his or her wish to the editor of the programme. Disadvantages of this method include slowness and randomness of the service. Another method is known in which a person may use his or her phone or computer to vote for various options given in
10 the programme. Disadvantages of this method include the lack of personal service and relative slowness of the service.

An object of the invention is to reduce the above-mentioned disadvantages associated with the prior art. The method according to the invention for controlling a transmission facilitates subscriber-controlled contents of the transmission in real time. Moreover, user selections are collected automatically, which reduces the possibility of human errors in addition to reducing the delay brought about by the
15 transmitting party responding to the user selections.

All above-mentioned advantages associated with the solution according to the invention can be advantageously realized by an embodiment in which synchronized options are sent in addition to the transmission to a GSM (Global System for Mobile
20 Communications) communication device. User selections are delivered as SMS (Short Message Service) messages from the GSM communication device to a server which distributes the selection data to one or more transmitting parties, such as radio channels, for example. The radio channels may send response information to the user, change their transmissions according to the user selections or change the contents of a personal data packet, say an audio file, on the basis of the user selections.
25

The method according to the invention for providing an interactive programme service, in which method transmission control data are transferred from the terminal of a user of the service to the sender of the programme, and said control data are
30 used for determining the contents of the transmission, and transmission is performed, is characterized in that

- said control data are sent from said terminal to a control forwarding node,
- said control data are transferred from the control forwarding node to the sender of the programme, and

- said determining of the contents of the transmission is realized automatically.

The arrangement according to the invention for providing an interactive programme service, which arrangement comprises a terminal of a user of the service, the sender of the programme, and a two-way communication system between these two, is characterized in that

- said communication system comprises a forwarding node for transferring transmission control data from the terminal to the sender of the programme,
- said sender of the programme comprises means for determining the contents of the transmission automatically according to said control data.

10 In this description and in the claims, the term "transmission" refers to the sending of a programme entity via radio transmitters of the distribution network or via a data network in an encoded form. A "sender" means in this description and in the claims a set of apparatus with which the programme sent to the users of the service is compiled and transmitted. A "forwarding node" means in this description and in the
15 claims a place of storage for the control data coming from the users, the contents of which influence the transmissions. A "network address" means in this description and in the claims an information storage place in a server or terminal, to which the network address proper points.

Advantageous embodiments of the invention are described more closely in the following, referring to the drawings attached hereto.

Fig. 1 shows a block diagram of an embodiment of the invention,
Fig. 2 shows a block diagram of a second embodiment of the invention,
Fig. 3 shows a block diagram of a third embodiment of the invention,
Fig. 4 shows a block diagram of a fourth embodiment of the invention,
25 Fig. 5 shows a flow diagram of an embodiment of the inventive method, and
Fig. 6 shows a flow diagram of a second embodiment of the inventive method.

Fig. 1 shows an example of a system according to the invention. The forwarding node is a server 100 which typically is a world-wide-web server or web page in connection with the Internet, or a server in connection with the telephone network.
30 The senders 200, 201 typically are radio or television stations advantageously in a broadband radio connection with a terminal 300. The transmission path typically is e.g. a GSM, CDMA (Code Division Multiple Access), NMT, XDSL, UMTS (Universal Mobile Telephone Service), ADSL, Iridium, Teldesic and/or Inmarsat transmission path. The terminal 300 advantageously is a GSM, CDMA, NMT, XDSL,

UMTS, ADSL, Iridium, Teldesic and/or Inmarsat mobile station. The user 400 may advantageously make selections on his or her terminal 300 concerning the transmission and send his or her selections to the server 100 which forwards the selections to the senders 200, 201. Alternatively, the senders 200, 201 may inquire the server
5 100 for the selections. Based on the selections, the senders can control their transmissions and/or the personal transmission sent to the user 400 only.

A transmission advantageously includes options and/or instructions. The user 400 may e.g. vote his or her favourite song on a radio station's playlist or order additional information about advertisements of interest. Based on the information re-
10 ceived from the users 400 the server and/or senders may send response information to the users, typically delivered by e-mail, SMS, voice mail and/or conventional letter mail or in some other way.

Fig. 2 shows a second example of a system according to the invention. The forwarding node in this case is a service page 600. The sender 200 is arranged so as to
15 send the transmission to a network address 500. The transmission is advantageously packed into a user's personal transmission file which advantageously is an audio file or is in an FTP, Telnet, FTAM and/or SMS based format. Typically, however, the transmission file is an audio file. The user 400 receives transmission files at his or her terminal 300. The user 400 may advantageously influence the transmission by
20 sending transmission control data, such as selections, to his or her service page 600, advantageously a world-wide web page, answering machine or some other means of storage in connection with the communication network.

The service page 600 may be advantageously arranged so as to send the transmission control data to the sender 200, or the sender 200 may be typically arranged so
25 as to monitor the user feedback on the user's service page 600. Furthermore, it is obvious that the service page 600 may be located on the server 100 with a plurality of other service pages.

Fig. 3 shows an arrangement according to the inventive method on a larger scale. A sender 200 may be arranged so as to send individualized transmission files to a plurality of network addresses (500, 501, 502) and terminals (300, 301, 302). The sender
30 200 may advantageously monitor the feedback from a plurality of users on their respective service pages (600, 601, 602).

Fig. 4 shows an arrangement according to the inventive method on a larger scale. A plurality of senders 200, 201, 202 are advantageously arranged so as to transmit to a

network address 500. A given user and terminal 300 may advantageously observe a plurality of transmissions and send transmission control data for all of these to his or her service page 600. From the service page 600 the control data can be typically transferred to the senders 200, 201, 202, or optionally each sender 200, 201, 202 may initiate a connection to the service page 600 and transfer the desired information to itself.

In Fig. 5, transmission occurs in block 51, and the transmission is received at a terminal in step 52. After that, an optional service, such as mailing a brochure to a postal address, is selected in step 53. Next, this option selection is sent to the server, step 54, where the transmission control data are received 55.

In an advantageous embodiment, additional steps are taken after step 55. In this embodiment the subscriber, i.e. the user, is identified at the server, step 56. The server then requests the user to send the relevant information 57 if required by the optional service selected in step 53. Finally, a response is sent to the terminal either direct from the sender or server or from the sender via the server 58.

Fig. 6 shows a flow diagram of an embodiment 60 of the inventive method, characteristic of the arrangement depicted in Fig. 2. In step 61 a transmission file, such as an audio file, is sent to a network address where it is received 62. The transmission file is then sent to a terminal in step 63, where it is received, step 64. The user may make optional selections, which selections constitute the transmission control data that are sent to a service page in step 65, where said selections are received, step 66. The transmission control data are transmitted to the senders in step 67, and the senders receive the control data in step 68. At least one user's personal and/or public transmission is changed according to the control data received, step 69.

The above-mentioned embodiments of the invention have considerable advantages. The method according to the invention for controlling a transmission facilitates subscriber-controlled contents of the transmission in real time, and the user need not suffer from unnecessary delays. Furthermore, user selections are transferred in an automated manner in the form of data, reducing the possibility of human errors as well as reducing the delay associated with the response of the sender.

The invention was above described with reference to the embodiments discussed. However, it is obvious that the invention is not limited solely to those embodiments, but it covers all imaginable embodiments in accordance with the inventional idea defined by the independent claims.

Claims

1. A method for providing an interactive programme service, in which method transmission control data are transferred from the terminal of a user of the service to the sender of the programme, and said control data are used for determining the contents of the transmission, and transmission is performed, characterized in that
 - said control data are sent from said terminal (300, 301, 302) to a control forwarding node,
 - said control data are transferred from the control forwarding node to the sender (200, 201, 202) of the programme, and
 - said determining of the contents of the transmission is realized automatically.
2. A method according to claim 1 for providing an interactive programme service, characterized in that said forwarding node is a public server (100) to which any user (400) of the programme service may send.
3. A method according to claim 1 for providing an interactive programme service, characterized in that
 - said forwarding node is a user-specific service page (600, 601, 602),
 - said transmission is realized in file format to the network address (500, 501, 502) of said user, and
 - said file is transferred from said network address to the user's terminal.
4. A method according to claim 1, characterized in that the transmission control data are selections of options associated with a given transmission.
5. A method according to claim 3, characterized in that the transmission control data are selections for the whole transmission.
6. A method according to claim 1, characterized in that in addition to the programme transmission the sender sends response information to the user.
7. A method according to claim 6, characterized in that said response information is delivered in the form of e-mail, SMS message or voice mail.
8. A method according to claim 1, characterized in that the transmission data and transmission control data are placed in frames according to the FTP, Telnet, FTAM or SMS protocol on the application layer.

9. A method according to claim 1, characterized in that said transmission is a radio or television transmission.

10. An arrangement for providing an interactive programme service, which arrangement comprises a terminal of a user of the service, the sender of the programme, and a two-way communication system between these two, characterized in that

- said communication system comprises a forwarding node for transferring transmission control data from the terminal (300, 301, 302) to the sender (200, 201, 202) of the programme,

- said sender of the programme comprises means for determining the contents of the transmission automatically according to said control data.

11. An arrangement according to claim 10 for providing an interactive programme service, characterized in that said forwarding node is a public server (100) to which any user (400) of the programme service may send.

12. An arrangement according to claim 10 for providing an interactive programme service, where the transmission is realized in file format, characterized in that

- said forwarding node is a user-specific service page (600, 601, 602),

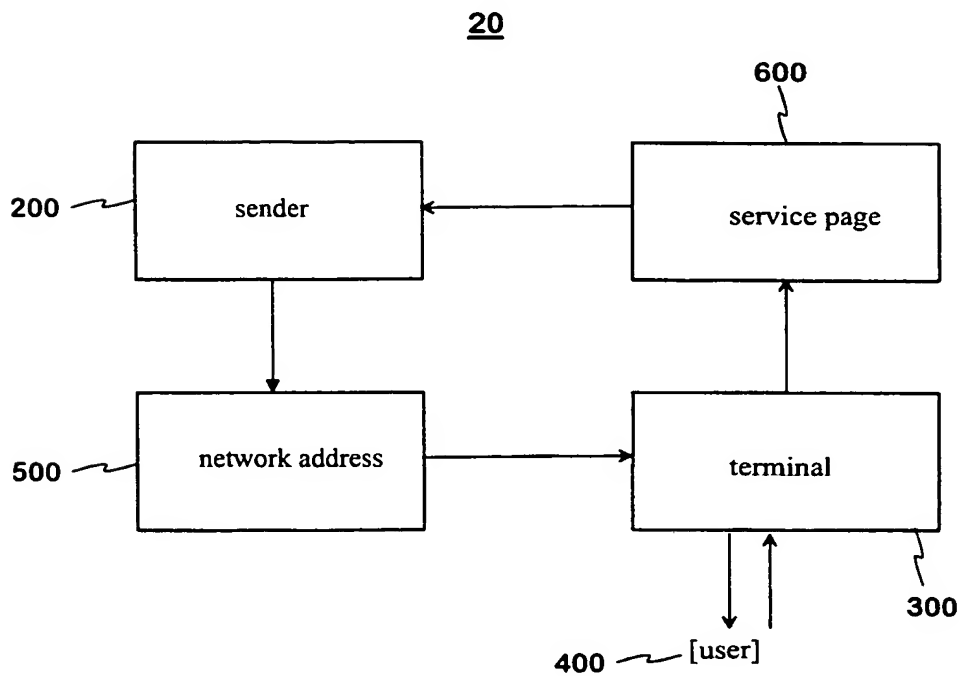
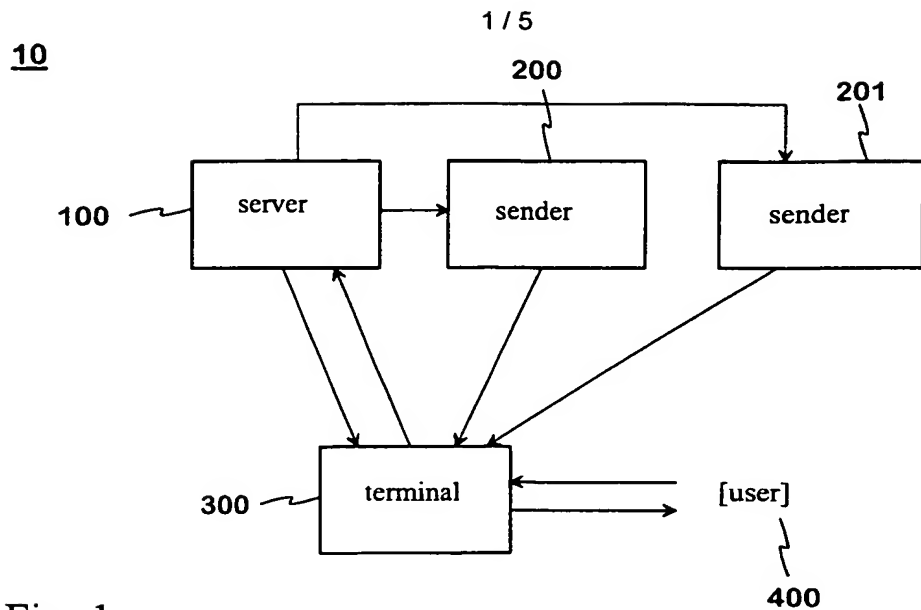
- said communication system comprises the user's network address (500, 501, 502) and means for transferring transmission files from the sender to said network address, and

- said communication system further comprises means for transferring said files from said network address to the user's terminal.

13. An arrangement according to claim 10, characterized in that said terminal (300, 301, 302) is a mobile station.

14. An arrangement according to claim 12, characterized in that said network address (500, 501, 502) is the user's IP address, phone number, answering machine number or fax number.

15. An arrangement according to claim 12, characterized in that said means for transferring transmission files comprise a broadband XDSL, ADSL or UMTS channel.



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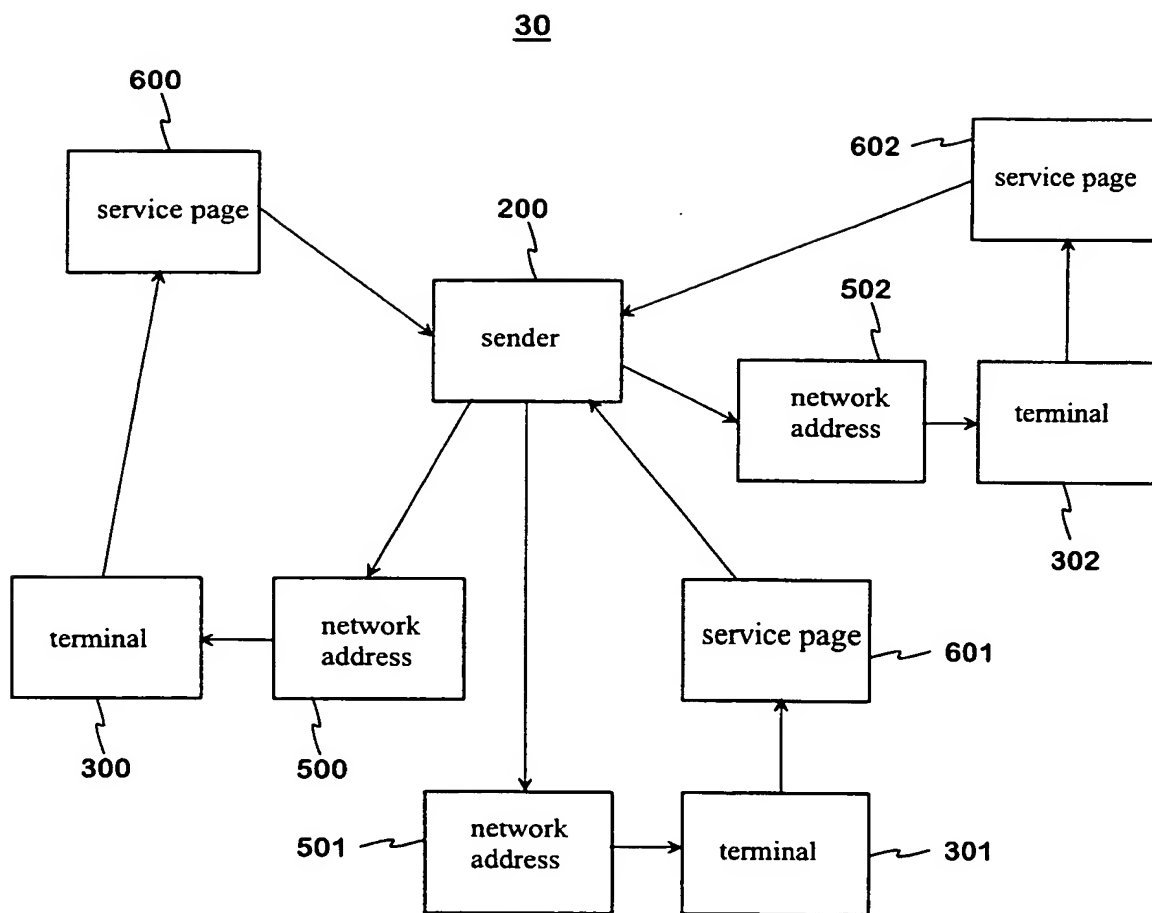


Fig. 3

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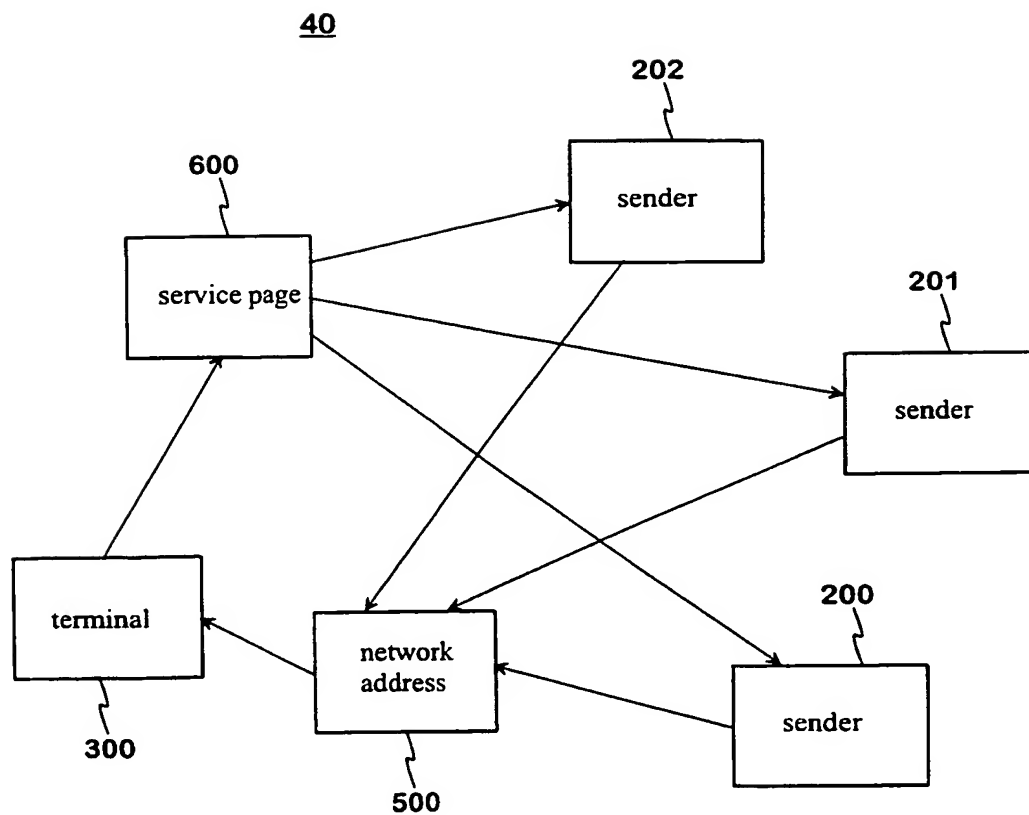
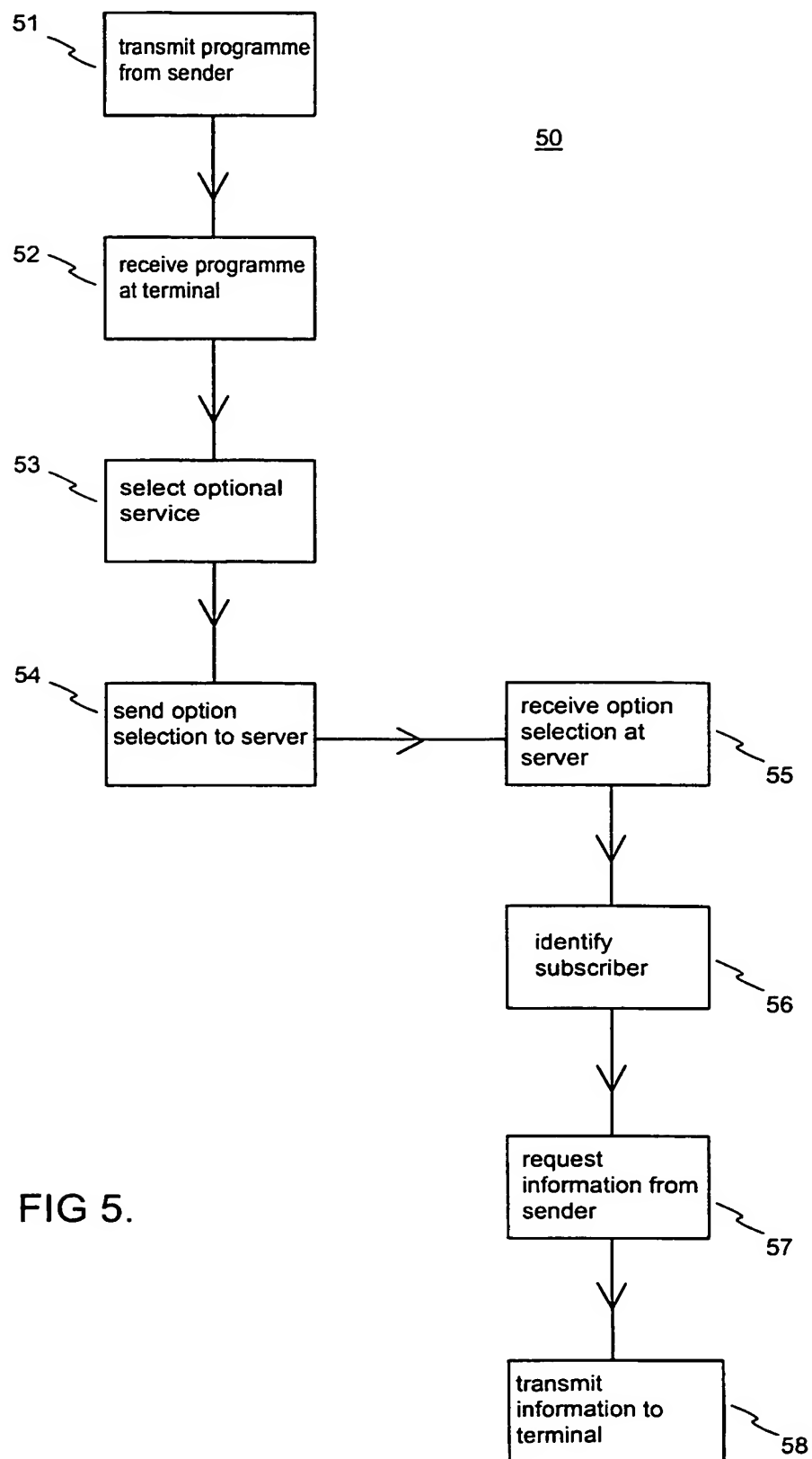


Fig. 4



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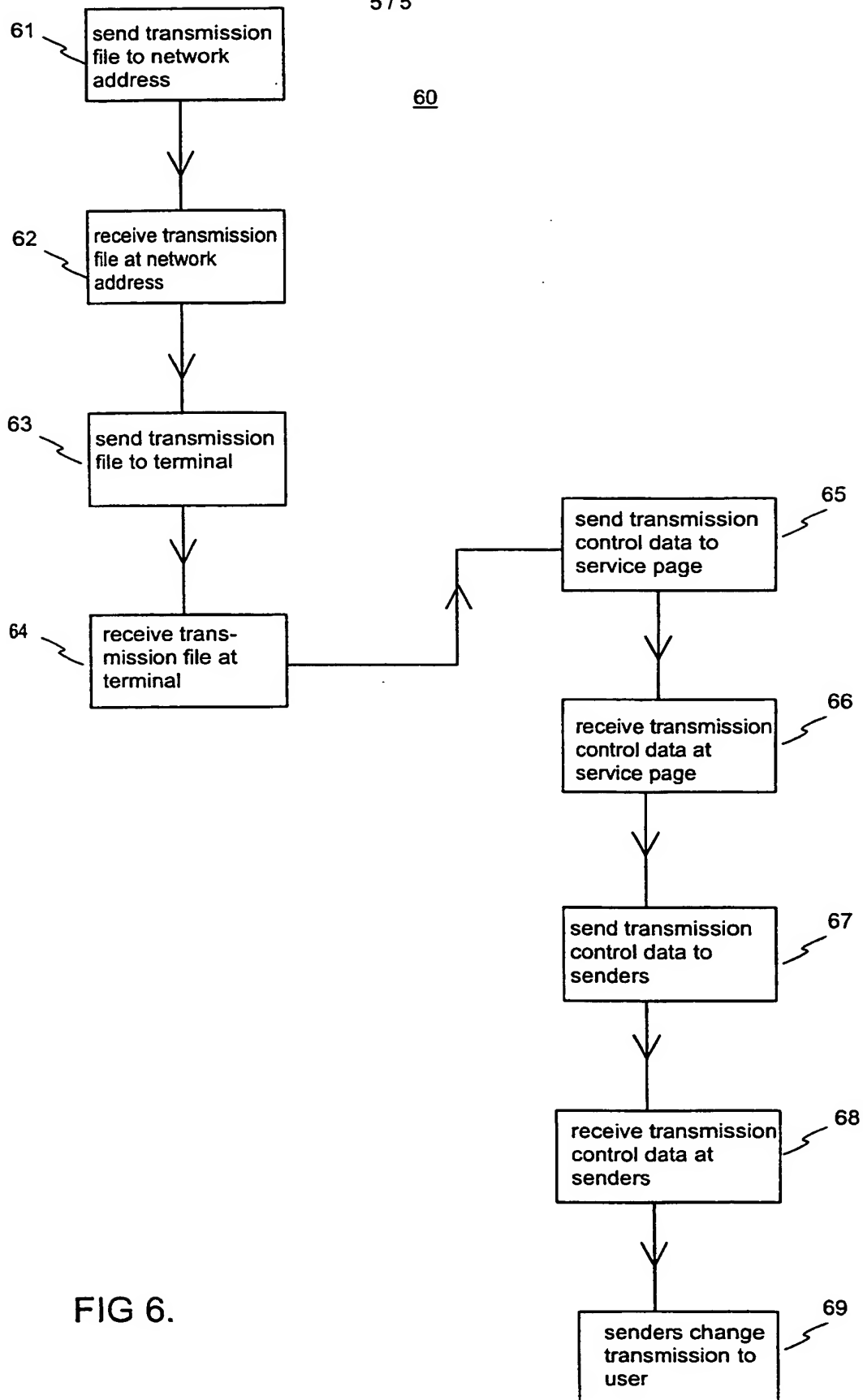
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FIG 6.

INTERNATIONAL SEARCH REPORT

International application No.

PCT/FI 00/00636

A. CLASSIFICATION OF SUBJECT MATTER

IPC7: H04N 7/173

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC7: H04N, G06F

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

SE,DK,FI,NO classes as above

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	WO 9836552 A1 (BRITISH TELECOMMUNICATIONS PUBLIC LIMITED COMPANY), 20 August 2000 (20.08.00), page 1, line 29 - page 2, line 13; page 4, line 22 - page 7, line 24, figures 1-2, abstract --	1-15
A	EP 0776131 A2 (MATSUSHITA ELECTRIC INDUSTRIAL CO., LTD.), 28 May 1997 (28.05.97), see the whole document --	1-15
A	EP 0625856 A1 (BELL TELEPHONE MANUFACTURING COMPANY), 23 November 1994 (23.11.94), see the whole document --	1-15

☒ Further documents are listed in the continuation of Box C.☒ See patent family annex.

* Special categories of cited documents:

"A" document defining the general state of the art which is not considered to be of particular relevance

"E" earlier application or patent but published on or after the international filing date

"I" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)

"O" document referring to an oral disclosure, use, exhibition or other means

"P" document published prior to the international filing date but later than the priority date claimed

"I" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

"X" document of particular relevance: the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

"Y" document of particular relevance: the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art

"&" document member of the same patent family

Date of the actual completion of the international search

Date of mailing of the international search report

24 November 2000

01-12-2000

Name and mailing address of the ISA/
 Swedish Patent Office
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INTERNATIONAL SEARCH REPORT

International application No.

PCT/FI 00/00636

C (Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	WO 9912100 A1 (NORTHERN TELECOM LIMITED), 11 March 1999 (11.03.99), page 5, line 5 --	15
A	Patent Abstracts of Japan, abstract of JP 11-164283 A (NIPPON TELEGRAPH & TELEPHONE CORP.), 18 June 1999 (18.06.99) -- -----	1-2

INTERNATIONAL SEARCH REPORT

Information on patent family members

02/11/00

International application No.

PCT/FI 00/00636

Patent document cited in search report			Publication date	Patent family member(s)			Publication date
WO	9836552	A1	20/08/00	AU	5875298 A	08/09/98	
				CN	1247665 T	15/03/00	
				EP	0960522 A	01/12/99	

EP	0776131	A2	28/05/97	AU	708570 B	05/08/99	
				AU	7176896 A	29/05/97	
				CN	1160316 A	24/09/97	
				JP	9224236 A	26/08/97	
				US	5887062 A	23/03/99	

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				AU	678217 B	22/05/97	
				AU	6192594 A	24/11/94	
				DE	69317267 D,T	25/06/98	
				ES	2112976 T	16/04/98	
				US	5550577 A	27/08/96	

WO	9912100	A1	11/03/99	AU	8386198 A	22/03/99	

Claims

1. A method for providing an interactive programme service, in which method transmission control data are transferred from the terminal of a user of the service to the sender of the programme, and said control data are used for determining the contents of the transmission, and transmission is performed, characterized in that
 - said control data are sent from said terminal (300, 301, 302) to a control forwarding node,
 - said control data are transferred from the control forwarding node to the sender (200, 201, 202) of the programme, and
 - said determining of the contents of the transmission is realized automatically.
2. A method according to claim 1 for providing an interactive programme service, characterized in that said forwarding node is a public server (100) to which any user (400) of the programme service may send.
3. A method according to claim 1 for providing an interactive programme service, characterized in that
 - said forwarding node is a user-specific service page (600, 601, 602),
 - said transmission is realized in file format to the network address (500, 501, 502) of said user, and
 - said file is transferred from said network address to the user's terminal.
4. A method according to claim 1, characterized in that the transmission control data are selections of options associated with a given transmission.
5. A method according to claim 3, characterized in that the transmission control data are selections for the whole transmission.
6. A method according to claim 1, characterized in that in addition to the programme transmission the sender sends response information to the user.
7. A method according to claim 6, characterized in that said response information is delivered in the form of e-mail, SMS message or voice mail.
8. A method according to claim 1, characterized in that the transmission data and transmission control data are placed in frames according to the FTP, Telnet, FTAM or SMS protocol on the application layer.

9. A method according to claim 1, characterized in that said transmission is a radio or television transmission.

10. An arrangement for providing an interactive programme service, which arrangement comprises a terminal of a user of the service, the sender of the programme, and a two-way communication system between these two, characterized in that

- said communication system comprises a forwarding node for transferring transmission control data from the terminal (300, 301, 302) to the sender (200, 201, 202) of the programme,

10 - said sender of the programme comprises means for determining the contents of the transmission automatically according to said control data.

11. An arrangement according to claim 10 for providing an interactive programme service, characterized in that said forwarding node is a public server (100) to which any user (400) of the programme service may send.

12. An arrangement according to claim 10 for providing an interactive programme service, where the transmission is realized in file format, characterized in that

- said forwarding node is a user-specific service page (600, 601, 602),

- said communication system comprises the user's network address (500, 501, 502) and means for transferring transmission files from the sender to said network address, and

20 - said communication system further comprises means for transferring said files from said network address to the user's terminal.

13. An arrangement according to claim 10, characterized in that said terminal (300, 301, 302) is a mobile station.

14. An arrangement according to claim 12, characterized in that said network address (500, 501, 502) is the user's IP address, phone number, answering machine number or fax number.

15. An arrangement according to claim 12, characterized in that said means for transferring transmission files comprise a broadband XDSL, ADSL or UMTS channel.

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PCT REQUEST

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Original (for **SUBMISSION**) - printed on 10.07.2000 09:26:46 AM

0 0-1	For receiving Office use only International Application No.	PCT/FI 0 0 / 0 0 6 3 6
0-2	International Filing Date	1 0 JUL 2000 (1 0 -07- 2000)
0-3	Name of receiving Office and "PCT International Application"	The Finnish Patent Office PCT International Application
0-4 0-4-1	Form - PCT/RO/101 PCT Request Prepared using	PCT-EASY Version 2.90 (updated 10.05.2000)
0-5	Petition The undersigned requests that the present international application be processed according to the Patent Cooperation Treaty	
0-6	Receiving Office (specified by the applicant)	National Board of Patents and Registration (Finland) (RO/FI)
0-7	Applicant's or agent's file reference	50170
I	Title of invention	INTERACTIVE SERVICE
II II-1 II-2 II-4 II-5	Applicant This person is: Applicant for Name Address:	applicant only all designated States except US ALMA MEDIA OYJ P.O. Box 140 FIN-00101 Helsinki Finland
II-6	State of nationality	FI
II-7	State of residence	FI
III-1 III-1-1 III-1-2 III-1-4 III-1-5	Applicant and/or inventor This person is: Applicant for Name (LAST, First) Address:	applicant and inventor US only VISURI, Petri, Jaakko, Johannes Siltatie 1 B FIN-00140 Helsinki Finland
III-1-6	State of nationality	FI
III-1-7	State of residence	FI

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IV-1	Agent or common representative; or address for correspondence The person identified below is hereby/has been appointed to act on behalf of the applicant(s) before the competent International Authorities as:	agent
IV-1-1	Name	BERGGREN OY AB
IV-1-2	Address:	P.O. Box 16 FIN-00101 Helsinki Finland
IV-1-3	Telephone No.	+358-9-693701
IV-1-4	Facsimile No.	+358-9-6933944
IV-1-5	e-mail	email.box@berggren.fi
V	Designation of States	
V-1	Regional Patent (other kinds of protection or treatment, if any, are specified between parentheses after the designation(s) concerned)	AP: GH GM KE LS MW MZ SD SL SZ TZ UG ZW and any other State which is a Contracting State of the Harare Protocol and of the PCT EA: AM AZ BY KG KZ MD RU TJ TM and any other State which is a Contracting State of the Eurasian Patent Convention and of the PCT EP: AT BE CH&LI CY DE DK ES FI FR GB GR IE IT LU MC NL PT SE and any other State which is a Contracting State of the European Patent Convention and of the PCT OA: BF BJ CF CG CI CM GA GN GW ML MR NE SN TD TG and any other State which is a member State of OAPI and a Contracting State of the PCT
V-2	National Patent (other kinds of protection or treatment, if any, are specified between parentheses after the designation(s) concerned)	AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH&LI CN CR CU CZ DE DK DM DZ EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT TZ UA UG US UZ VN YU ZA ZW

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V-5	Precautionary Designation Statement In addition to the designations made under items V-1, V-2 and V-3, the applicant also makes under Rule 4.9(b) all designations which would be permitted under the PCT except any designation(s) of the State(s) indicated under item V-6 below. The applicant declares that those additional designations are subject to confirmation and that any designation which is not confirmed before the expiration of 15 months from the priority date is to be regarded as withdrawn by the applicant at the expiration of that time limit.		
V-6	Exclusion(s) from precautionary designations	NONE	
VI-1	Priority claim of earlier national application		
VI-1-1	Filing date	09 July 1999 (09.07.1999)	
VI-1-2	Number	991581	
VI-1-3	Country	FI	
VI-2	Priority document request The receiving Office is requested to prepare and transmit to the International Bureau a certified copy of the earlier application(s) identified above as item(s):	VI-1	
VII-1	International Searching Authority Chosen	Swedish Patent Office (ISA/SE)	
VIII	Check list	number of sheets	electronic file(s) attached
VIII-1	Request	4	-
VIII-2	Description	4	-
VIII-3	Claims	2	-
VIII-4	Abstract	1	50170.txt
VIII-5	Drawings	5	-
VIII-7	TOTAL	16	
	Accompanying items	paper document(s) attached	electronic file(s) attached
VIII-8	Fee calculation sheet	✓	-
VIII-9	Separate signed power of attorney	✓	-
VIII-16	PCT-EASY diskette	-	diskette
VIII-18	Figure of the drawings which should accompany the abstract	3	
VIII-19	Language of filing of the international application	Finnish	
IX-1	Signature of applicant or agent		
IX-1-1	Name	BERGGREN OY AB	
IX-1-2	Name of signatory	Juhani Kupiainen	
IX-1-3	Capacity	Patent Attorney	

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FOR RECEIVING OFFICE USE ONLY

10-1	Date of actual receipt of the purported international application	10 JUL 2000 (10-07-2000)
10-2	Drawings:	
10-2-1	Received	
10-2-2	Not received	
10-3	Corrected date of actual receipt due to later but timely received papers or drawings completing the purported international application	
10-4	Date of timely receipt of the required corrections under PCT Article 11(2)	
10-5	International Searching Authority	ISA/SE
10-6	Transmittal of search copy delayed until search fee is paid	

FOR INTERNATIONAL BUREAU USE ONLY

11-1	Date of receipt of the record copy by the International Bureau	14 AUGUST 2000 (14.08.00)
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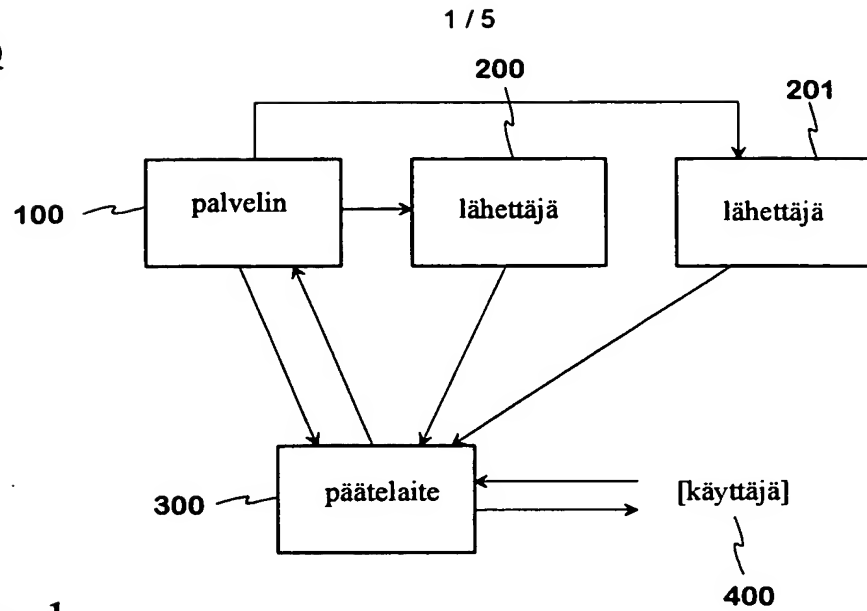
10

Fig. 1

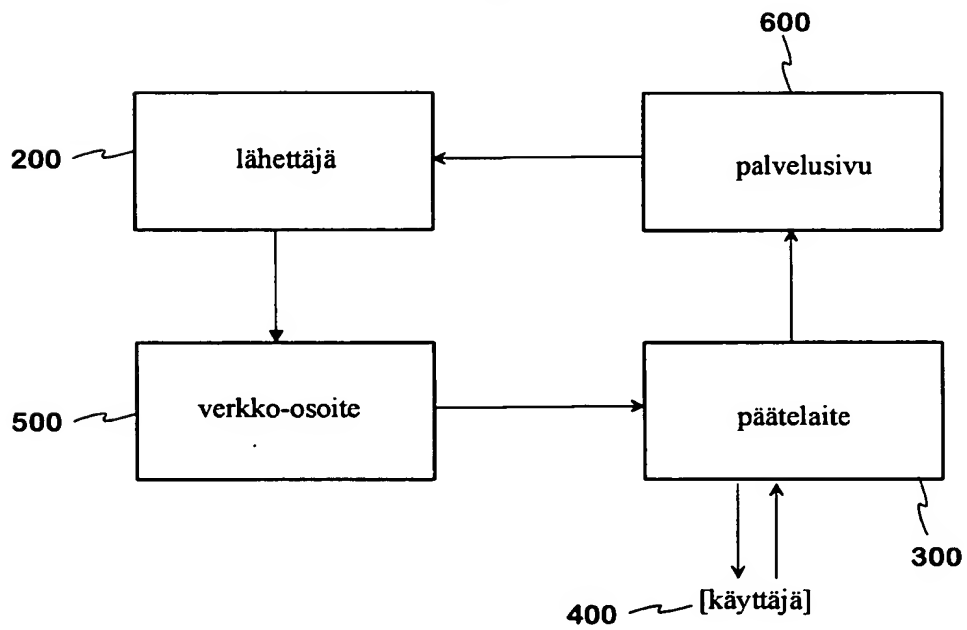
20

Fig. 2

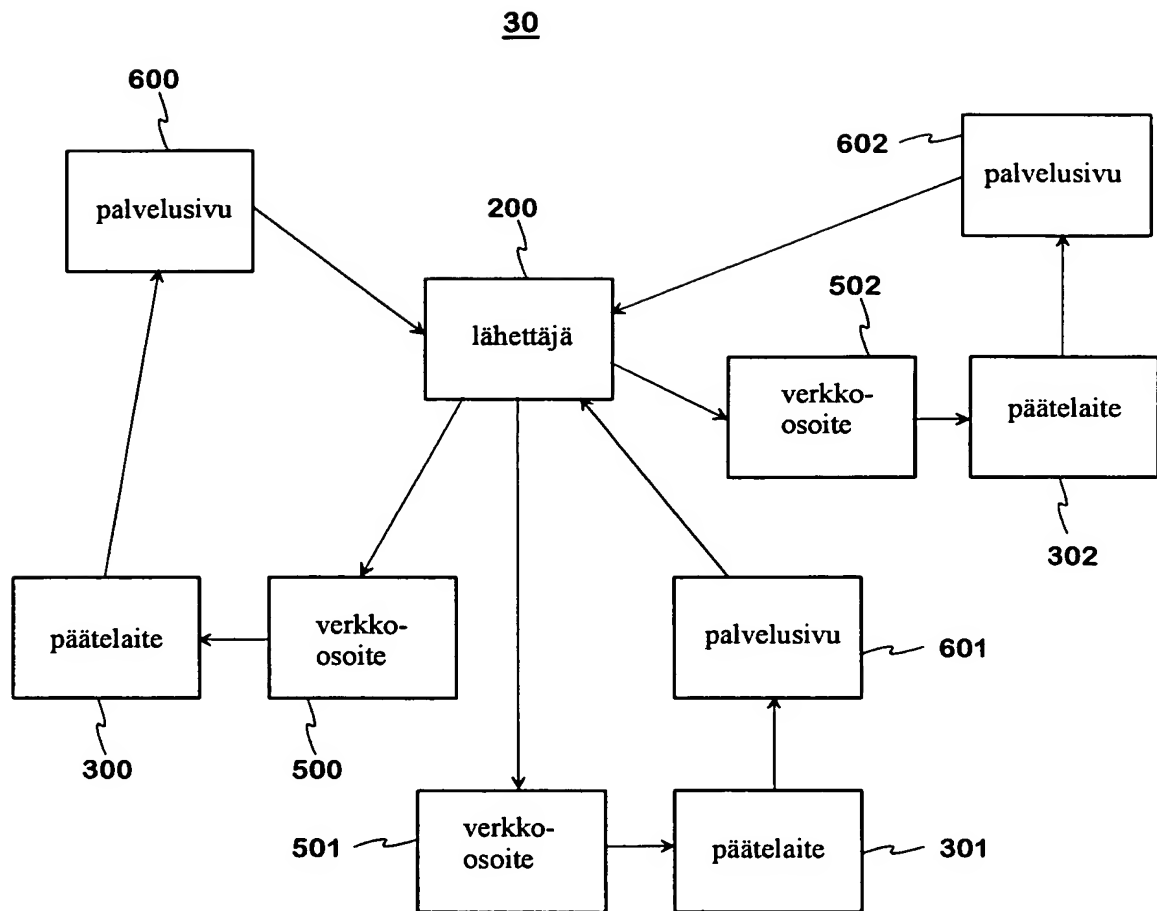


Fig. 3

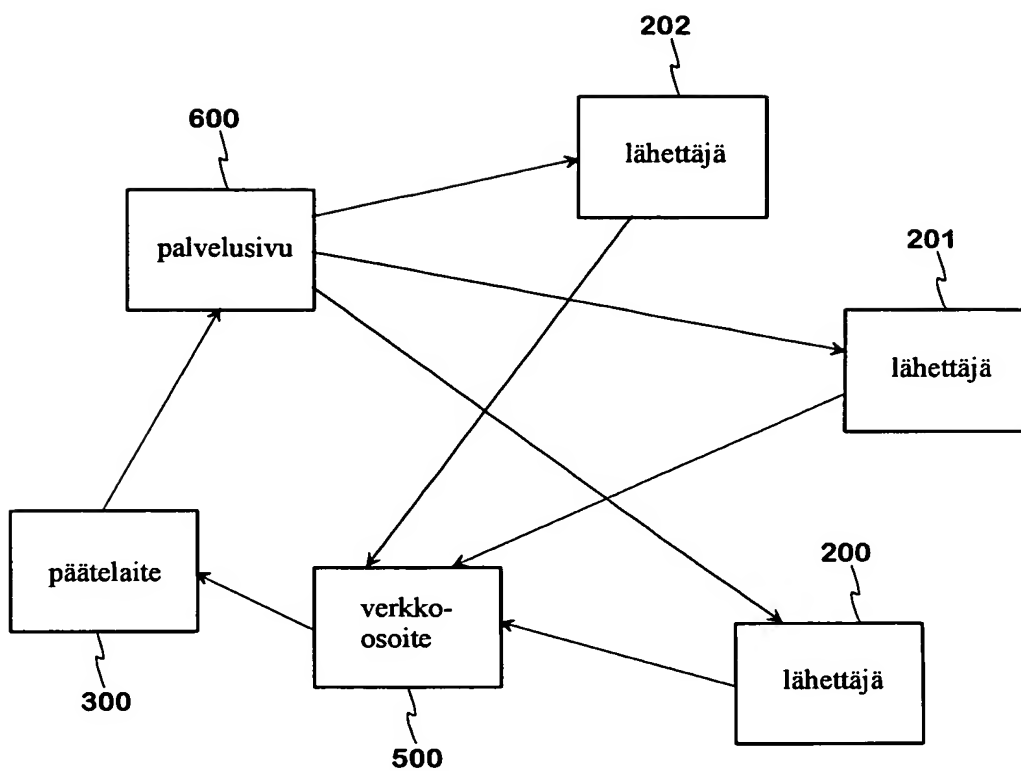
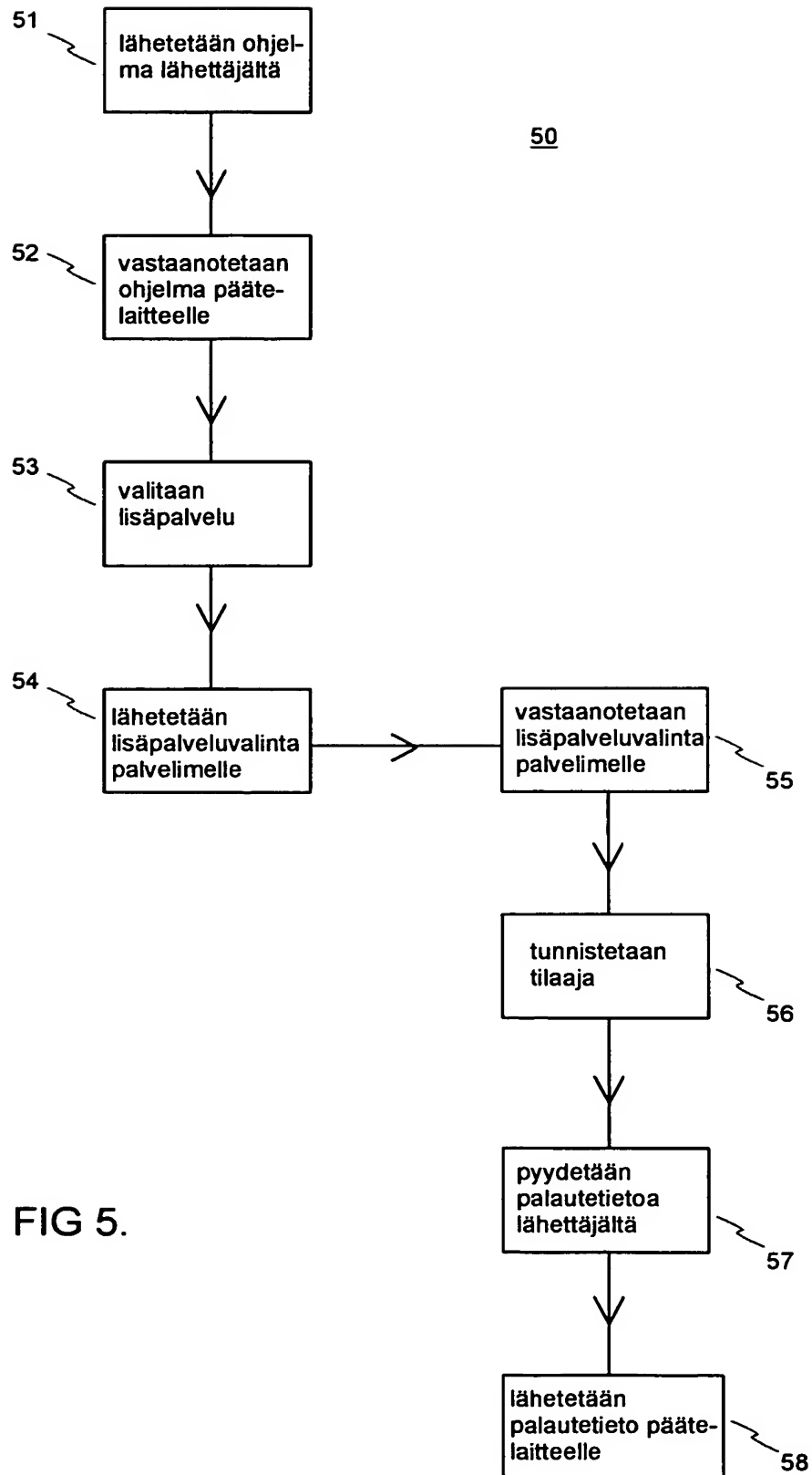
40

Fig. 4



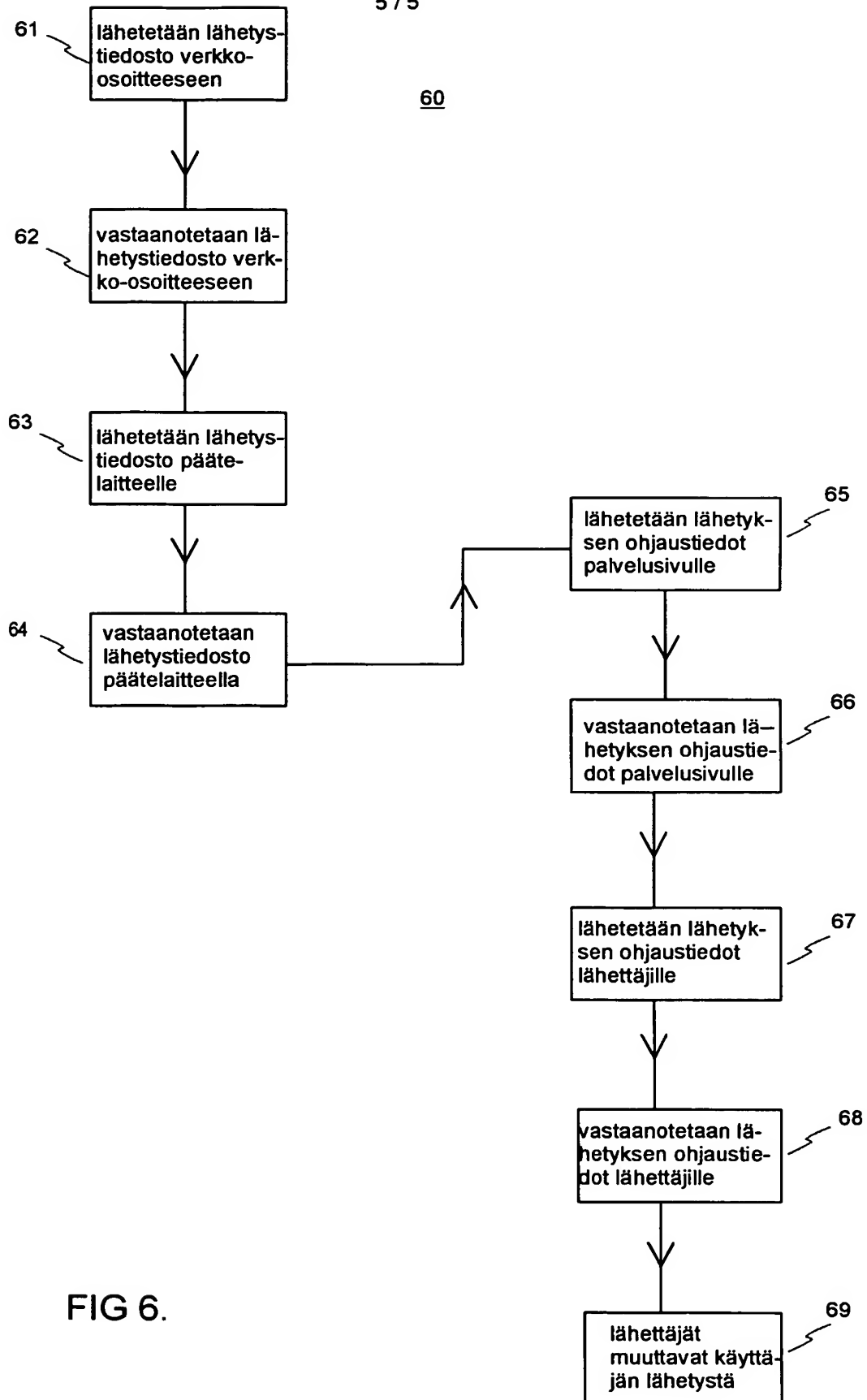


FIG 6.

Interaktiivinen palvelu

Keksintö koskee jakelutyyppeihin lähetyksiin liittyvää interaktiivista palvelua, jossa palvelun käyttäjät voivat vaikuttaa heille tulevaan ohjelmaan. Keksintö koskee lähinnä ääniohjelmia.

Ennestään tunnetaan menetelmä, jossa ohjelman seuraaja ilmoittaa puhelimitse toiveensa ohjelman toimittajalle. Haittana tällöin on palvelun hitaus ja sattumanvaraisuus. Tunnetaan myös menetelmä, jossa henkilö voi äänestää puhelimella tai tietokoneella annettuja ohjelmaan sisältyviä vaihtoehtoja. Haittana on myös tällöin henkilökohtaisen palvelun puute ja palvelun suhteellinen hitaus.

Keksinnön tarkoituksena on vähentää edellä mainittuja, tekniikan tasoon liittyviä haittoja. Keksinnön mukainen menetelmä lähetyksen ohjaamiseksi mahdollistaa lähetyksen täysin tilaajavalintaisen sisällön reaaliaikaisesti. Lisäksi käyttäjän antamat valinnat kerätään automatisoidusti, mikä pienentää inhimillisten virheiden mahdollisuutta sekä vähentää viivettä, joka kuluu lähetystahon reagoidessa käyttäjän valintoihin.

Kaikki edellämainitut keksinnön mukaiseen ratkaisuun liittyvät edut ovat edullisesti toteutettavissa suoritusmuodolla, jossa lähetyksen ohessa lähetetään synkronoituja lisävalintoja GSM (Global System for Mobile Communications) -viestimeen. Käyttäjän valinnat välitetään GSM-viestimestä SMS (Short Message Service) -viesteillä palvelimelle, joka jakaa valintatiedot yhdelle tai usealle lähettäjälle, jotka ovat esimerkiksi radiokanavia. Radiokanavat voivat vastata käyttäjälle palautetiedolla, muuttaa lähetystään käyttäjien valintojen mukaan, tai muuttaa käyttäjälle lähetettävän henkilökohtaisen tiedostopakettin, kuten äänitiedoston, sisältöä käyttäjän valintojen mukaan.

Keksinnön mukaiselle menetelmälle interaktiivisen ohjelmapalvelun toteuttamiseksi, jossa menetelmässä siirretään lähetyksen ohjaustietoa palvelun käyttäjän päätelaitteelta ohjelman lähettäjälle, käytetään mainittua ohjaustietoa lähetyksen sisällön määrittämiseen, ja suoritetaan lähetyksen, on tunnusomaista, että

- lähetetään mainitulta päätelaitteelta mainittua ohjaustietoa ohjauksen välityspaikkaan,
- siirretään mainittua ohjaustietoa ohjauksen välityspaikasta ohjelman lähettäjälle ja
- mainittu lähetyksen sisällön määrittäminen tapahtuu automaattisesti.

Keksinnön mukaiselle järjestelylle interaktiivisen ohjelmapalvelun toteuttamiseksi, joka järjestely käsittää palvelun käyttäjän päätelaitteen, ohjelman lähettäjän sekä näiden välisen kaksisuuntaisen siirtojärjestelmän, on tunnusomaista, että

- mainittu siirtojärjestelmä käsittää välityspaikan lähetyksen ohjaustiedon siirtämiseksi päätelaitteelta ohjelman lähettäjälle,
- mainittu lähettäjä käsittää välineet lähetyksen sisällön määräämiseksi automaattisesti mainitun ohjaustiedon perusteella.

Lähetyksellä tarkoitetaan tässä selostuksessa ja patenttivaatimuksissa jakeluverkon radiolähettimien kautta tapahtuvaa tai dataverkon kautta koodattuna tapahtuvaa ohjelmakokonaisuuden lähetystä. Lähettäjällä tarkoitetaan tässä selostuksessa ja patenttivaatimuksissa laitteistoa, jolla palvelun käyttäjille lähetettävän ohjelman muodostus ja lähetys tapahtuu. Välityspaikalla tarkoitetaan tässä selostuksessa ja patenttivaatimuksissa käyttäjiltä tulevan ohjaustiedon tallennuspaikkaa, jonka sisältö vaikuttaa lähetyksiin. Verkko-osoitteella tarkoitetaan tässä selostuksessa ja patenttivaatimuksissa palvelimen tai päätelaitteen tiedontallennuspaikkaa, johon varsinainen verkko-osoite viittaa.

Seuraavassa osiossa selostetaan keksinnön edullisia suoritusmuotoja hieman tarkemmin viitaten oheisiin kuviin.

Kuvassa 1 esitetään keksinnön erästä suoritusmuotoa lohkokaaaviona,
Kuvassa 2 esitetään keksinnön erästä toista suoritusmuotoa lohkokaaaviona,
Kuvassa 3 esitetään keksinnön erästä kolmatta suoritusmuotoa lohkokaaaviona,
Kuvassa 4 esitetään keksinnön erästä neljättä suoritusmuotoa lohkokaaaviona,
Kuvassa 5 esitetään eräs keksinnöllisen menetelmän suoritusmuoto vuokaaviona ja
Kuvassa 6 esitetään eräs toinen keksinnöllisen menetelmän suoritusmuoto vuokaaviona.

Kuvassa 1 on esimerkki keksinnön mukaisesta järjestelmästä. Välityspaikkana on palvelin 100, joka on tyypillisesti Internetin yhteydessä oleva WWW-palvelin tai kotisivu (World Wide Web) tai puhelinverkon yhteydessä oleva palvelin. Lähettäjät 200, 201 ovat tyypillisesti radio- tai televisioasemia, ja ovat edullisesti laajakaistaisessa radioyhteydessä päätelaitteeseen 300. Siirtotie on tyypillisesti esim. GSM, CDMA (Code Division Multiple Access), NMT, XDSL, UMTS (Universal Mobile Telephone Service), ADSL, Iridium, Teldesic ja/tai Inmarsat siirtotie. Päätelaite 300 on edullisesti GSM, CDMA, NMT, XDSL, UMTS, ADSL, Iridium, Teldesic ja/tai Inmarsat matkaviestin. Käyttäjä 400 voi edullisesti suorittaa lähetystä koskevia valintoja päätelaitteellaan 300, ja lähettää valintansa palvelimelle 100, joka toimittaa

valinnat eteenpäin lähettäville 200, 201. Vaihtoehtoisesti lähettäjät 200, 201 voivat tiedustella valintoja palvelimelta 100. Valintojen perusteella lähettäjät voivat ohjata lähetystään ja/tai vain käyttäjälle 400 lähetettävää henkilökohtaista lähetystä.

- 5 Lähetyks edullisesti sisältää vaihtoehtoja ja/tai ohjeita. Käyttäjä 400 voi esimerkiksi äänestää suosikkikappaletaan radioaseman soittolistalta tai tilata itselleen lisätietoja kiinnostavista mainoksista. Käyttäjiltä 400 saamien tietojen perusteella palvelin ja/tai lähettäjät voivat lähettää palautetietoa käyttäjille, joka tyypillisesti toimitetaan sähköpostitse, SMS-viestillä, äänipostina ja/tai normaalina postituksena tai muulla tavalla.
- 10 Kuvassa 2 on toinen esimerkki keksinnön mukaisesta järjestelmästä. Välityspaikkana siinä on palvelusivu 600. Lähettjä 200 on järjestetty lähettämään lähetysten verkko-osoitteeseen 500. Lähetys edullisesti pakataan käyttäjän henkilökohtaiseksi lähetystiedostoksi, joka on edullisesti äänitiedosto tai on FTP, Telnet, FTAM, ja/tai SMS -pohjaisessa formaatissa. Lähetystiedosto on tyypillisesti kuitenkin äänitiedosto.
- 15 Käyttäjä 400 saa lähetystiedostoja päätelaitteelleen 300. Käyttäjä 400 voi edullisesti vaikuttaa lähetykseen lähettämällä lähetysten ohjaustietoja, kuten valintoja, palvelusivulleen 600, joka on edullisesti WWW-kotisivu, automaattinen puhelinvas-
taaja tai muu tiedonsiirtoverkon yhteydessä oleva tallennusväline.

- 20 Palvelusivu 600 voidaan edullisesti järjestää lähettämään lähetysten ohjaustiedot lähettäjälle 200, tai lähettjä 200 voi tyypillisesti olla järjestetty seuraamaan käyttäjän 400 palautetta tämän palvelusivulta 600. On myös selvää, että palvelusivu 600 voi sijaita palvelimella 100, useiden muiden palvelusivujen kanssa.

- 25 Kuvassa 3 esitetään keksinnöllisen menetelmän mukainen järjestely laajemmassa mittakaavassa. Yksi lähettjä 200 voi olla järjestetty lähettämään yksilöityjä lähetystiedostoja useisiin verkko-osoitteisiin (500, 501, 502) ja päätelaitteille (300, 301, 302). Lähettjä 200 voi edullisesti seurata myös useiden eri käyttäjien antamaa palautetta näiden palvelusivuilta (600, 601, 602).

- 30 Kuvassa 4 esitetään keksinnöllisen menetelmän mukainen järjestely laajemmassa mittakaavassa. Useita lähettäjiä 200, 201, 202 on edullisesti järjestetty lähettämään verkko-osoitteeseen 500. Yksi käyttäjä ja päätelaite 300 voi edullisesti seurata useita lähetystietoja, ja lähettää näistä kaikista lähetysten ohjaustietoja palvelusivulleen 600. Palvelusivulta 600 ohjaustiedot voidaan tyypillisesti siirtää lähettäville 200, 201, 202, tai kukin lähettjä 200, 201, 202 voi vaihtoehtoisesti ottaa yhteyden palvelusivulle 600 ja siirtää haluamansa tiedot itselleen.

Kuvan 5 lohossa 51 tapahtuu lähetys ja vaiheessa 52 lähetys vastaanotetaan päätelaitteella. Tämän jälkeen valitaan lisäpalvelu vaiheessa 53, kuten esitepostitus postiosoitteeseen. Seuraavaksi tämä lisävalinta lähetetään palvelimelle, 54, jossa kyseiset lähetyksen ohjaustiedot vastaanotetaan 55.

- 5 Eräässä edullisessa suoritusmuodossa toteutetaan vielä lisävaiheita vaiheen 55 jälkeen. Tässä suoritusmuodossa tunnistetaan tilaaja eli käyttäjä palvelimella, vaihe 56. Tämän jälkeen palvelimelta pyydetään lähettäjää lähettämään palautetieto 57, mikäli vaiheessa 53 valittu lisäpalvelu tätä edellyttää. Lopuksi palautetieto lähetetään päätelaitteelle joko suoraan lähettäjältä, palvelimelta tai lähettäjältä palvelimen kautta
- 10 58.

- Kuvassa 6 esitetään vuokaaviona eräs keksinnöllisen menetelmän suoritusmuoto 60, joka on ominainen kuvan 2 järjestelylle. Vaiheessa 61 lähetetään lähetystiedosto, kuten äänitiedosto, verkko-osoitteeseen, jossa se vastaanotetaan 62. Tämän jälkeen lähetystiedosto lähetetään päätelaitteelle vaiheessa 63, jossa se vastaanotetaan, vaihe
- 15 64. Käyttäjä voi suorittaa lisävalintoja, joista koostuvat lähetyksen ohjaustiedot lähetetään palvelusivulle vaiheessa 65, jonne kyseiset valinnat vastaanotetaan, vaihe 66. Lähetyksen ohjaustiedot lähetetään lähettäjille vaiheessa 67, ja lähettäjät vastaanottavat ohjaustiedot vaiheessa 68. Saatujen ohjaustietojen perusteella ainakin yhden käyttäjän henkilökohtaista ja/tai yleistä lähetystä muutetaan, vaihe 69.

- 20 Keksinnön edellämainittuihin suoritusmuotoihin liittyy huomattavia etuja. Keksinnön mukainen menetelmä lähetyksen ohjaamiseen mahdollistaa lähetyksen täysin tilaajavalintaisen sisällön reaaliaikaisesti, eikä käyttäjän tarvitse kärsiä turhista viivettä. Lisäksi käyttäjän antamat valinnat siirtyvät automatisoidusti datana, mikä pienentää inhimillisten virheiden mahdollisuutta sekä vähentää lähetystahon reagoinnista syntyvää viivettä.
- 25

Keksintöä on edellä selostettu viitaten oheisiin suoritusmuotoihin. On kuitenkin selvää, ettei keksintö rajoitu yksinomaan niihin, vaan käsittää kaikki ajateltavissa olevat, itsenäisten patenttivaatimusten määrittämän keksinnöllisen ajatuksen mukaiset suoritusmuodot.

Patenttivaatimukset

1. Menetelmä interaktiivisen ohjelmapalvelun toteuttamiseksi, jossa menetelmäs-
sä siirretään lähetyksen ohjaustietoa palvelun käyttäjän päätelaitteelta ohjelman lä-
hettäjälle, käytetään mainittua ohjaustietoa lähetyksen sisällön määräämiseen, ja
5 suoritetaan lähetyk, **tunnettu** siitä, että
- lähetetään mainitulta päätelaitteelta (300, 301, 302) mainittua ohjaustietoa ohjauk-
sen välityspaikkaan,
- siirretään mainittua ohjaustietoa ohjauksen välityspaikasta ohjelman lähettäjälle
(200, 201, 202) ja
10 - mainittu lähetyksen sisällön määrääminen tapahtuu automaattisesti.
2. Patenttivaatimuksen 1 mukainen menetelmä interaktiivisen ohjelmapalvelun
toteuttamiseksi, **tunnettu** siitä, että mainittu välityspaikka on yleinen palvelin (100),
johon voi lähettää kuka tahansa ohjelmapalvelun käyttäjä (400).
3. Patenttivaatimuksen 1 mukainen menetelmä interaktiivisen ohjelmapalvelun
15 toteuttamiseksi, **tunnettu** siitä, että
- mainittu välityspaikka on käyttäjäkohtainen palvelusivu (600, 601, 602),
- mainittu lähetyk tapahtuu tiedostomuodossa mainitun käyttäjän verkko-
osoitteeseen (500, 501, 502) ja
- siirretään mainittu tiedosto mainitusta verkko-osoitteesta käyttäjän päätelaitteelle.
- 20 4. Patenttivaatimuksen 1 mukainen menetelmä, **tunnettu** siitä, että lähetyksen
ohjaustiedot ovat tiettyyn lähetykseen liitettyjen vaihtoehtojen valintoja.
5. Patenttivaatimuksen 3 mukainen menetelmä, **tunnettu** siitä, että lähetyksen
ohjaustiedot ovat koko lähetyksen valintoja.
6. Patenttivaatimuksen 1 mukainen menetelmä, **tunnettu** siitä, että lähettäjä lähet-
25 tää ohjelmälähetyksen lisäksi käyttäjälle palautetiedon.
7. Patenttivaatimuksen 6 mukainen menetelmä, **tunnettu** siitä, että mainittu pa-
lautetieto toimitetaan sähköpostina, SMS-viestinä tai äänipostina.
8. Patenttivaatimuksen 1 mukainen menetelmä, **tunnettu** siitä, että sijoitetaan lä-
hetystiedot ja lähetyksen ohjaustiedot sovelluskerrostaalla protokollan FTP, Telnet,
30 FTAM tai SMS mukaisiin kehyksiin.
9. Patenttivaatimuksen 1 mukainen menetelmä, **tunnettu** siitä, että mainittu lähe-
tys on radio-tai televisiolähetyk.

10. Järjestely interaktiivisen ohjelmapalvelun toteuttamiseksi, joka järjestely käsittää palvelun käyttäjän päätelaitteen, ohjelman lähettäjän sekä näiden välisen kaksisuuntaisen siirtojärjestelmän, **tunnettu siitä, että**
- mainittu siirtojärjestelmä käsittää välityspaikan lähetyksen ohjaustiedon siirtämiseksi päätelaitteelta (300, 301, 302) ohjelman lähettäjälle (200, 201, 202),
 - mainittu lähettäjä käsittää välineet lähetyksen sisällön määrittämiseksi automaattisesti mainitun ohjaustiedon perusteella.
11. Patenttivaatimuksen 10 mukainen järjestely interaktiivisen ohjelmapalvelun toteuttamiseksi, **tunnettu siitä, että** mainittu välityspaikka on yleinen palvelin (100), johon voi lähettää kuka tahansa ohjelmapalvelun käyttäjä (400).
12. Patenttivaatimuksen 10 mukainen järjestely interaktiivisen ohjelmapalvelun toteuttamiseksi, jossa lähetys on tiedostomuotoista, **tunnettu siitä, että**
- mainittu välityspaikka on käyttäjäkohtainen palvelusivu (600, 601, 602),
 - mainittu siirtojärjestelmä käsittää käyttäjän verkko-osoitteen (500, 501, 502) sekä välineet lähetystiedostojen siirtämiseksi lähettäjältä kyseiseen verkko-osoitteeseen, ja
 - mainittu siirtojärjestelmä käsittää lisäksi välineet mainittujen tiedostojen siirtämiseksi mainitusta verkko-osoitteesta käyttäjän päätelaitteelle.
13. Patenttivaatimuksen 10 mukainen järjestely, **tunnettu siitä, että** mainittu päätelaitte (300, 301, 302) on matkaviestin.
14. Patenttivaatimuksen 12 mukainen järjestely, **tunnettu siitä, että** mainittu verkko-osoite (500, 501, 502) on käyttäjän IP-osoite, puhelinnumero, puhelinvastajan numero, tai faksinumero.
15. Patenttivaatimuksen 12 mukainen järjestely, **tunnettu siitä, että** mainitut välineet lähetystiedostojen siirtämiseksi käsittävät laajakaistaisen XDSL-, ADSL-, tai UMTS- kanavan.

(57) Tiivistelmä

Keksintö koskee jakelutyyppeihin ohjelmiin liittyvää interaktiivista palvelua, jossa palvelun käyttäjät voivat vaikuttaa heille tuleviin lähetyksiin, kuten tehdä lähetystä koskevia valintoja. Lähetyksellä tarkoitetaan jakeluverkon radiolähettimien kautta tapahtuvaa tai dataverkon kautta koodattuna tapahtuvaa lähetystä. Käyttäjän valinnat välitetään päätelaitteelta (300, 301, 302) esimerkiksi SMS-viesteillä palvelimelle, joka jakaa valintatiedot yhdelle tai usealle lähettäjälle (200), kuten esimerkiksi radiokanavalle. Radiokanavat voivat vastata käyttäjälle palautetiedolla, muuttaa lähetystään käyttäjien valintojen mukaan, tai muuttaa käyttäjälle lähetettävän henkilökohtaisen tiedostopakettin, kuten äänitiedoston, sisältöä käyttäjän valintojen mukaan.

Kuva 3

PATENT COOPERATION TREATY

PCT

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

(PCT Article 36 and Rule 70)

Applicant's or agent's file reference 50170	FOR FURTHER ACTION See Notification of Transmittal of International Preliminary Examination Report (Form PCT/PEA/416)	
International application No. PCT/FI00/00636	International filing date (<i>day month year</i>) 10.07.2000	Priority date (<i>day month year</i>) 09.07.1999
International Patent Classification (IPC) or national classification and IPC ⁷ H04N 7/173		
Applicant Alma Media OYJ et al		

1. This international preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36.

2. This REPORT consists of a total of 3 sheets, including this cover sheet.

☒ This report is also accompanied by ANNEXES, i.e., sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT).

These annexes consist of a total of 3 sheets.

3. This report contains indications relating to the following items:

- I ☒ Basis of the report
- II ☐ Priority
- III ☐ Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- IV ☐ Lack of unity of invention
- V ☒ Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- VI ☐ Certain documents cited
- VII ☐ Certain defects in the international application
- VIII ☐ Certain observations on the international application

Date of submission of the demand 07.02.2001	Date of completion of this report 16.10.2001
Name and mailing address of the IPEA/SE Patent- och registreringsverket Box 5055 S-102 43 STOCKHOLM Facsimile No. 08-667 72 88	Authorized officer Jesper Bergstrand /OGU Telephone No. 08-782 25 00

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

International application No.

PCT/FI00/00636

I. Basis of the report

1. With regard to the elements of the international application:*

- ☐ the international application as originally filed
- ☒ the description:
pages 1-4 , as originally filed
pages _____ , filed with the demand
pages _____ , filed with the letter of _____
- ☒ the claims:
pages _____ , as originally filed
pages _____ , as amended (together with any statement) under article 19
pages _____ , filed with the demand
pages 5-7 , filed with the letter of 04.10.2001
- ☒ the drawings:
pages 1-5 , as originally filed
pages _____ , filed with the demand
pages _____ , filed with the letter of _____
- ☐ the sequence listing part of the description:
pages _____ , as originally filed
pages _____ , filed with the demand
pages _____ , filed with the letter of _____

2. With regard to the language, all the elements marked above were available or furnished to this Authority in the language in which the international application was filed, unless otherwise indicated under this item.

These elements were available or furnished to this Authority in the following language English which is:

- ☐ the language of a translation furnished for the purposes of international search (under Rule 23.1(b)).
- ☒ the language of publication of the international application (under Rule 48.3(b)).
- ☐ the language of the translation furnished for the purposes of international preliminary examination (under Rules 55.2 and/or 55.3).

3. With regard to any nucleotide and/or amino acid sequence disclosed in the international application, the international preliminary examination was carried out on the basis of the sequence listing:

- ☐ contained in the international application in written form.
- ☐ filed together with the international application in computer readable form.
- ☐ furnished subsequently to this Authority in written form.
- ☐ furnished subsequently to this Authority in computer readable form.
- ☐ The statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.
- ☐ The statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished.

4. ☐ The amendments have resulted in the cancellation of:

- ☐ the description, pages _____
- ☐ the claims, Nos. _____
- ☐ the drawings, sheet/fig _____

5. ☐ This report has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2 (c)).**

* Replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are annexed to this report since they do not contain amendments (Rules 70.16 and 70.17).

** Any replacement sheet containing such amendments must be referred to under item I and annexed to this report.

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

International application No.

PCT/FI00/00636

V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement**1. Statement**

Novelty (N)	Claims	<u>1-21</u>	YES
	Claims		NO
Inventive step (IS)	Claims	<u>1-21</u>	YES
	Claims		NO
Industrial applicability (IA)	Claims	<u>1-21</u>	YES
	Claims		NO

2. Citations and explanations (Rule 70.7)

This report is based on the amended claims 1-21 filed with the agent's letter of 2001-10-04.

The following documents are cited in the International Search Report:

D1: WO 9836552 A1
D2: EP 0776131 A2
D3: EP 0625856 A1
D4: WO 9912100 A1
D5: Patent Abstracts of Japan, abstract of JP 11-164283 A

The documents cited in the International Search Report represent background art.

The invention defined in claims 1-21 is not disclosed by any of these documents.

None of the cited documents gives any indication towards the claimed method for providing an interactive programme service, whereby options are sent to a second terminal for a user to choose suitable control data. No relevant combination of the cited documents would lead a person skilled in the art to the invention defined in the claims.

Therefore, the invention defined in claims 1-21 is novel and is considered to involve an inventive step. It is also considered to be industrially applicable.

Claims

1. A method for providing an interactive programme service, in which method a program transmission is sent to at least one first terminal, transmission control data are transferred from a second terminal of a user of the service to the sender of the programme, and said control data are used for determining the contents of the transmission, and transmission is performed, **characterized** in that

- options are sent to said second terminal (300, 301, 302) for user to choose suitable control data,
- said control data are sent from said second terminal (300, 301, 302) to a control forwarding node,
- said control data are transferred from the control forwarding node to the sender (200, 201, 202) of the programme, and
- said determining of the contents of the transmission is realized automatically.

2. A method according to claim 1 for providing an interactive programme service, **characterized** in that said first terminal is at least one of the following: television receiver and radio receiver.

3. A method according to claim 1 for providing an interactive programme service, **characterized** in that said second terminal (300, 301, 302) is a mobile communication device.

4. A method according to claim 1 for providing an interactive programme service, **characterized** in that said first terminal is second terminal (300, 301, 302).

5. A method according to claim 1 for providing an interactive programme service, **characterized** in that said forwarding node is a public server (100) to which any user (400) of the programme service may send.

6. A method according to claim 1 for providing an interactive programme service, **characterized** in that

- said forwarding node is a user-specific service page (600, 601, 602),

- said transmission is realized in file format to the network address (500, 501, 502) of said user, and
- said file is transferred from said network address to the user's first terminal.

5 7. A method according to claim 1, **characterized** in that the transmission control data are selections of options associated with a given transmission.

8. A method according to claim 6, **characterized** in that the transmission control data are selections for the whole transmission.

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9. A method according to claim 1, **characterized** in that in addition to the programme transmission the sender sends response information to the user:

10. A method according to claim 9, **characterized** in that said response information is delivered in the form of e-mail, SMS message or voice mail.

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11. A method according to claim 1, **characterized** in that the transmission data and transmission control data are placed in frames according to the FTP, Telnet, FTAM or SMS protocol on the application layer.

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12. A method according to claim 1, **characterized** in that said transmission is a radio or television transmission.

13. An arrangement for providing an interactive programme service, which arrangement comprises at least one first terminal for representing the programme, a second terminal of a user of the service, the sender of the programme, and a two-way communication system between these two, **characterized** in that

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- said arrangement is arranged to send options to said second terminal (300, 301, 302) for user to choose suitable control data
- said communication system comprises a forwarding node for transferring transmission control data from the second terminal (300, 301, 302) to the sender (200, 201, 202) of the programme,
- said sender of the programme comprises means for determining the contents of the transmission automatically according to said control data.

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14. An arrangement according to claim 13 for providing an interactive programme service, **characterized** in that said first terminal is at least one of the following: television receiver and radio receiver.
- 5 15. An arrangement according to claim 13 for providing an interactive programme service, **characterized** in that said second terminal (300, 301, 302) is a mobile communication device.
- 10 16. An arrangement according to claim 13 for providing an interactive programme service, **characterized** in that said first terminal is second terminal (300, 301, 302).
- 15 17. An arrangement according to claim 13 for providing an interactive programme service, **characterized** in that said forwarding node is a public server (100) to which any user (400) of the programme service may send.
18. An arrangement according to claim 13 for providing an interactive programme service, where the transmission is realized in file format, **characterized** in that
 - said forwarding node is a user-specific service page (600, 601, 602),
 - 20 - said communication system comprises the user's network address (500, 501, 502) and means for transferring transmission files from the sender to said network address, and
 - said communication system further comprises means for transferring said files from said network address to the user's terminal.
- 25 19. An arrangement according to claim 13, **characterized** in that said terminal (300, 301, 302) is a mobile station.
- 30 20. An arrangement according to claim 18, **characterized** in that said network address (500, 501, 502) is the user's IP address, phone number, answering machine number or fax number.
- 35 21. An arrangement according to claim 18, **characterized** in that said means for transferring transmission files comprise a broadband XDSL, ADSL or UMTS channel.

PATENT COOPERATION TREATY

PCT

INTERNATIONAL SEARCH REPORT

(PCT Article 18 and Rules 43 and 44)

Applicant's or agent's file reference 50170	<div style="display: flex; justify-content: space-between;"> <div>FOR FURTHER ACTION</div> <div>see Notification of Transmittal of International Search Report (Form PCT/ISA/220) as well as, where applicable, item 5 below.</div> </div>	
International application No. PCT/FI 00/00636	International filing date (<i>day/month/year</i>) 10 July 2000	(Earliest) Priority Date (<i>day/month/year</i>) 9 July 1999
Applicant Alma Media OYJ et al		

This international search report has been prepared by this International Searching Authority and is transmitted to the applicant according to Article 18. A copy is being transmitted to the International Bureau.

This international search report consists of a total of 3 sheets.

☒ It is also accompanied by a copy of each prior art document cited in this report.

1. Basis of the report

a. With regard to the language, the international search was carried out on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.

☒ the international search was carried out on the basis of a translation of the international application furnished to this Authority (Rule 23.1(b)).

b. With regard to any nucleotide and/or amino acid sequence disclosed in the international application, the international search was carried out on the basis of the sequence listing:

- ☐ contained in the international application in written form.
- ☐ filed together with the international application in computer readable form.
- ☐ furnished subsequently to this Authority in written form.
- ☐ furnished subsequently to this Authority in computer readable form.
- ☐ the statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.
- ☐ the statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished.

2. ☐ Certain claims were found unsearchable (See Box I).

3. ☐ Unity of invention is lacking (See Box II).

4. With regard to the title,

- ☒ the text is approved as submitted by the applicant.
- ☐ the text has been established by this Authority to read as follows:

5. With regard to the abstract,

- ☒ the text is approved as submitted by the applicant.
- ☐ the text has been established, according to Rule 38.2(b), by this Authority as it appears in Box III. The applicant may, within one month from the date of mailing of this international search report, submit comments to this Authority.

6. The figure of the drawings to be published with the abstract is Figure No. 3

- ☒ as suggested by the applicant.
- ☐ because the applicant failed to suggest a figure.
- ☐ because this figure better characterizes the invention.
- ☐ None of the figures.

1
INTERNATIONAL SEARCH REPORT

International application No.

PCT/FI 00/00636

A. CLASSIFICATION OF SUBJECT MATTER

IPC7: H04N 7/173

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC7: H04N, G06F

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

SE,DK,FI,NO classes as above

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	WO 9836552 A1 (BRITISH TELECOMMUNICATIONS PUBLIC LIMITED COMPANY), 20 August 2000 (20.08.00), page 1, line 29 - page 2, line 13; page 4, line 22 - page 7, line 24, figures 1-2, abstract --	1-15
A	EP 0776131 A2 (MATSUSHITA ELECTRIC INDUSTRIAL CO., LTD.), 28 May 1997 (28.05.97), see the whole document --	1-15
A	EP 0625856 A1 (BELL TELEPHONE MANUFACTURING COMPANY), 23 November 1994 (23.11.94), see the whole document --	1-15

☒ Further documents are listed in the continuation of Box C.

☒ See patent family annex.

* Special categories of cited documents:

- "A" document defining the general state of the art which is not considered to be of particular relevance
- "E" earlier application or patent but published on or after the international filing date
- "L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
- "O" document referring to an oral disclosure, use, exhibition or other means
- "P" document published prior to the international filing date but later than the priority date claimed

"I" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

"X" document of particular relevance: the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

"Y" document of particular relevance: the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art

"&" document member of the same patent family

Date of the actual completion of the international search

24 November 2000

Date of mailing of the international search report

01 -12- 2000

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INTERNATIONAL SEARCH REPORT

International application No.

PCT/FI 00/00636

C (Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	WO 9912100 A1 (NORTHERN TELECOM LIMITED), 11 March 1999 (11.03.99), page 5, line 5 --	15
A	Patent Abstracts of Japan, abstract of JP 11-164283 A (NIPPON TELEGRAPH & TELEPHONE CORP.), 18 June 1999 (18.06.99) -- -----	1-2

INTERNATIONAL SEARCH REPORT
Information on patent family members

02/11/00

International application No.
PCT/FI 00/00636

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				AU	7176896 A	29/05/97
				CN	1160316 A	24/09/97
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				US	5887062 A	23/03/99

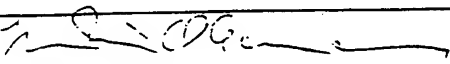
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PATENTTIHAKEMUS NRO	LUOKITUS
991581	H04L 012/16

TUTKITTU AINEISTO
Patenttijulkaisukokoelma (FI, SE, NO, DK, DE, CH, EP, WO, GB, US), tutkitut luokat H04L
Tiedonhaut ja muu aineisto EPODOC, WPI

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X	EP-A-0863641, H04L-012/56, AT&T CORP., p 6, r 20 - p 7, r 51	1, 3-6, 10, 12, 13
X	WO-A-9918684, H04H-001/00, R. ANGLIN, s 3, r 18 - s 3, r 32	1, 2, 4, 5, 9, 10, 13
X	US-A-5812931, H04H-001/00, H. YUEN, p 2, r 60 - p 4, r 33	1, 2, 4-7, 9-11
Y	US-A-5859852, H04J-003/16, HYBRID NETWORKS INC., p 1, r 37 - p 2, r 46	1-3, 9-12
*) X Patentoitavuuden kannalta merkittävä julkaisu yksinään tarkasteltuna Y Patentoitavuuden kannalta merkittävä julkaisu, kun otetaan huomioon tämä ja yksi tai useampi samaan kategoriaan kuuluva julkaisu A Yleistä tekniikan tasoa edustava julkaisu, ei kuitenkaan patentoitavuuden este		
Päiväys 08.09.2000	Tutkija  Heikki Oksanen	